

Scenario Matrix - Pushing the Envelope

Scenarios	Pushing the Envelope
Drivers	
World Economy and Market Environment	Dynamic, global economy with highly integrated markets; overall finance stability at macro level, volatility at enterprise level; capital is available but risk adjusted cost of capital; high demand from mature and emerging markets; R&D = small r, Big D; short termism; a large affluent class, growing middle class world-wide; overall low unemployment and flexible labor markets (telecommuting at high end labor).
International Trade Environment	World Trade Organization kind of world establishes and enforces free and fair rules of the global trade game; second generation offsets between emerged & emerging markets (e.g., China & Vietnam); few residual regional preferences, EU, NAFTA; harmonization on navigation, environmental via strong ICAO; blurring of air line nationality (e.g., AA/BA/USAIR); market determines landing rights, with congestion based pricing in mature markets; privatization of ATC in mature and select emerging markets; development of internet based open market for airline seats; airlines move to leased aircraft and provision of air services.
Political Instability	Fairly Stable; some low level instability in Middle East (religious / ethnic) and Russia (little border tension); social tension between haves and have-nots.
U. S. Military Requirements	Low level US “police” role under UN auspices, US and Europe contribute high-tech weapon systems to police force; some US military presence in Middle East; problems are local bullies, civil strife; significant reduced basing around world; European unification limits need for strong NATO; some basing in South East Asia; rapid deployment forces; low level of global conflict leads to low armaments demand.
Global Distribution of Power & Technology	Increased number of effective actors; high level of rapid technology diffusion fed by global infonet; still have and have not states and groups; many niche economic powers; information security is problem, particularly in commerce.
Fuels & Fuel Sources	Oil is critical and some Middle East instability; plus environment quality issues lead to alternate fuels; market driven access to resources.
US Policy	Basic policy - laissez fair, (in both economic and social policy); tort reform combined with strictly enforced truth in labeling laws; anti-trust laws much more liberally interpreted due to dynamic high-tech information rich nature of economy; bankruptcy laws strictly enforced; tendencies to off-load social responsibilities to state and local governments; minimal government, privatization of services; no deficit/reduced debt, tendency not to subsidize industry; minimum body of law and regulation to support a dynamic free market economy; affluent charities for humanitarian work.
Corporate Structure and Operations	Trend to virtual, global decentralized structures, with mobile contingent labor; technology proliferation is high and dynamic; market share is dynamic, in general very hard to capture share for a long time; 24 hour operations; significantly reduced offsets (some still exist in excess capacity segments or in newly industrialized countries); alliances very important, but flexible, often short term; ownership patterns are dynamic with variable mix of capital sources; corporate governance is often global and virtual; labor competition is intense at high end, but less so at the low end; trend toward converging wage rates world wide.
Environment	This is key quality of life issue; attitudes and solutions to pollution vary across world ranging from don't care to highly engaged in prevention and clean up; often back yard issue that plays out in politics; generally this world is moving toward “green”; as a more affluent society the US is pushing market based environmentalism and marketing green technology world wide.
Public Health	General levels of public health are high and follow quality of life; very serious spikes in global infectious diseases due to high mobility; environmental epidemiology is well funded.

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Public Attitude to Technology	Love that stuff; “anywhere, anytime” newness, whimsy, fads; seen as good, as a solution rather than the problem; popular support for “big science”.
Education	Global meritocracy, in love with education; education is life long not in discrete chunks; multiple careers; in “sciences” its technical more than basic research; focus on business and culture and international business standards; very global and interconnected, some virtual schools; education also is a quality of life activity; funding is from all sources and very high; still an underclass with inadequate education; world class graduate education in the US; because of access to information many people have higher knowledge and interest in many areas including science.
Geographic (Living) Dispersion	More and more people live where they want across the globe, not tied to work location (telecommuting); reduced population in some old urban and suburban environment; still high business travel, but now from highly dispersed locations.
Communications and Information Technology	This is the backbone of the world; it is ubiquitous and the heart of global business and personal life; high bandwidth, mobile, lots of new hardware and application (much of it is useless) very high competition; a lot of turmoil in products and marketing; communication and information security important for personal, business and national security.
Production Cost Performance	Many product components are commodities, but value-added is created through rapid small lot customization and/or very high-tech non-commodity components; business cycles tend to be globally synchronized; ownership patterns are very flexible (time shares, multi-vehicle leases, etc.), very disbursed ownership patterns for transportation products; barriers to entry/exit are very low; many products experience rapid obsolescence.
Technology development and Application	Very, very market driven; global financing instruments are key to R&D (with emphasis on “D”); quality of life drives many new technologies; consumers like technology; short term product environment has low market incentives for R&D with long pay back period; long-term research comes from high risk capital investment and portfolio management but rapid growth environments create new opportunities and challenges.
Time Poverty Leisure Time, Entertainment	Very time constrained in dynamic global economy, but separation of work and play is unclear; a lot of contract labor-work for a while, take a long vacation (implies excellent personal credit management); blurring of education and leisure; options for leisure are open ended; middle class tries to mimic this activity, but with fewer resources; entertainment is huge industry and has expanded definition (TV, computer, internet interactive combinations with personalization and “preference buffers”).
Global Transportation Infrastructure	Trend toward privatization of development, ownership, and operation of infrastructure; “smart” (user-friendly) infrastructure; harmonization of standards especially in automation and communications; pay for access - user fees; infrastructure must accommodate low-cost, rapid-time-to-market, optimized production flows; potential for electro-magnetic/ frequency congestion; supports rapid response to consumer demand (internet orders/overnight delivery); dynamic mix of transportation modes (e.g., “transportation credit cards/super transport rental company”); high-end market for significantly reduced portal-to-portal travel time and for continuous connectivity.
Safety and Security	Safe global transportation system driven by infonet informed consumers; must be globally harmonized/standardized (ICAO); security threats including data are widely varied and very hard to predict; data security is important because of smart infrastructure.
Access to space	If space is the most cost effective way to solve a problem, global financing will be possible, but, it is likely to be private and entrepreneurial; (note: small “r”, BIG “D”); public “big science” programs include continued human and robotic exploration and exploitation of space (possible public/private mix, (e.g., advertising, entertainment)).